

REMARKS

The Examiner has rejected claims 1 to 16 as anticipated by Scott. The Applicants respectfully disagree that these claims are anticipated by Scott for reasons set out below, and request reconsideration of allowability of claims 1 to 16 as amended, and new claim 17.

The present application describes a server for handling multimodal information, that is capable of supporting multi-modal terminals. Original claim 1 defined a terminal interface for supporting one or more connections to user terminals ...for passing information in at least one of the modal forms. Claim 1 has been amended to more clearly define the invention by specifying that the terminal interface provides support for multimodal terminals, i.e. ... for supporting one or more connections from the server to user terminals comprising at least one multimodal user terminal, and that the service controller is operable to interact with user terminals for controlling input or output of the information on the terminal interface and the internet interface according to the modal form of the input and output.

Dependant claim 2 has been amended correspondingly, since support for multi-modal terminals is now defined more explicitly in claim 1. Claims 3 to 5 and 7 have been amended for consistency in terminology.

With respect to the Examiners rejection of claims 9 as being a substantial duplicate of claim 8, the applicants note that the Examiner is correct that a duplicate claim was inadvertently included, and claim 9 has now been cancelled.

Independent claims for other aspects of the invention, i.e. claim 12 for a server, claim 14 for a method of using a server, claim 15 for a method of using a multimodal service provided by a server, and claim 16 for software for carrying out the method of using a server, have been amended similarly to claim 1 amendments, to clarify that the server supports multimodal terminals and

APPLICATION SERIAL NO. 09/062,969

different modal forms of input and output. Claim 13 dependent on claim 12 has been amended for consistency in terminology with amended claim 12.

Thus the servers and methods described and claimed in the present application are capable of supporting multimodal terminals, e.g. a personal computer or a phone providing a multimodal interface, for example as described in copending application 08/992,630, filed concurrently with this application, referenced on page 1 of the present application. Advantages of having multi-modal capability or modal sensitivity in the server rather than only in the user's terminal are noted on page 3, lines 24 to page 5, line 14.

Claims rejections

The Examiner has rejected claims 1 to 16 as anticipated by Scott et al. (US 6,101,473).

The Examiner argues with respect to claims 1, 7 and 11, that Scott discloses a system for using speech recognition to access the internet comprising the following features: in Fig 1 speech web browser 7 for supporting one or more connections on the internet; speech web server for supporting one or more connections from server to user 15 depicted in figure 5 and for passing information to the user 15; the speech web server for controlling input or output of the information in the server and for processing the information.

The Examiner argues with respect to claims 2 and 3, speech web server is operable to interact with user 15 having a computer 16 and a telephone 19 and to select which modal forms to use according to the command received from the user.

The Examiner argues with respect to claim 4 that speech web server is operable to receive inputs from user

APPLICATION SERIAL NO. 09/062,969

15 and to determine the intention of the user based on inputs.

The applicants respectfully disagree that the invention described in the present invention is anticipated by Scott for the following reasons.

The server of Scott is not capable of supporting a multimodal terminal, nor of controlling inputs and outputs in different modal forms, as described in the present application, and now more clearly defined in claim 1. J

Scott provides a system for linking conventional components to handle graphical input using a conventional local web browser 1, such as Netscape, linked to a speech/web browser and speech server residing on speech/web server 8. As acknowledged in col. 3 line 12, the general purpose of Scott is to provide a method of linking known single mode systems, i.e. linking a remote speech recognition device operating over the telephone network to any conventional web browser operating over the internet, to provide an immediate solution for speech enabling the net or net enabling the telephone. Scott provides an interface to a conventional graphical interface, or to a telephone terminal capable of handling voice only and allows tandem operation, but Scott does not provide a truly multi-modal interface nor support for one or more multi-modal terminals (see col 3, lines 22 to 24) where support for multimodal input and output is integrated. Scott fails to provide a service controller which operable to interact with a multi-modal terminal to select which modal form or forms to use, and for controlling input or output of the information on the terminal interface and the internet interface according to the modal form of the input and output as described in the present application and defined in amended claim 1. J

APPLICATION SERIAL NO. 09/062,969

Scott discloses a system which is a combination three major components - speech web browser 7, speech server 9, speech server with telephony functions, and ASTP controller software 4 and 6 - the latter being described as the the heart of the system. Speech server 9 is described as a standard off the shelf web browser with a plug in (e.g. col 4, line 64) and speech/ web browser 7 is driven by speech only (col 5 line 2). Disadvantages of a system having separate graphical and speech interfaces, such as in Scott, are described on page 2, line 28 to page 3 line 7 of the present applications, which highlights issues with synchronization of separate interfaces for different modes of input and output. Specifically, speech web interface of Scott is a speech/audio only interface while the conventional browser is a graphics interface. Neither does Scott provide a multi-modal interface capable of accepting input and providing output in more than one modal form as described in the present application. X

Thus the Applicants believe that the server defined in amended claim 1 distinguishes patentably over Scott. If claim 1 is found to be allowable, dependent claims 2 to 11 which define further limitations thereon should also be patentable. New independent claim 17 defines a server including the limitations of claim 1 in combination with the limitation of claims 2, 3, and 4, and thus in particular provide support for... receiving inputs simultaneously in different modal forms. J

Independent claims 12, 14, 15, 16 for other aspects of the invention have been amended correspondingly with the amendments made to claim 1, and if claim 1 is found to be allowable, these claims should also be allowable over Scott for reasons stated above. Claim 13 is dependent on claim 12 and add further limitations thereto.

APPLICATION SERIAL NO. 09/062,969

Thus the Applicants respectfully request reconsideration of amended claims 1 to 16, and new claim 17 in light of the arguments present above and with a view to allowance.

Yours very truly,
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APPLICATION SERIAL NO. 09/062,969

RM 1134 Pasternack, et al.

Serial no.

09/062,969

Marked up copy of original claims showing amendments

1. A server for handling information which is in different modal forms suitable for more than one mode of user interface, the server comprising:

an internet interface for supporting one or more connections on the internet;

a terminal interface for supporting one or more connections from the server to user terminals, at least one terminal being a multi-modal user terminal, and for passing information in at least one of the modal forms; and

a service controller being operable to interact with user terminals for controlling input or output of the information on the terminal interface and the internet interface, and for processing the information received from or sent to either interface, according to ~~its~~ the modal form of the input and output.

2. The server of claim 1, the service controller being operable ~~to interact with a user having with a multi-modal user terminal, and~~ to select which modal form or forms to use.

3. The server of claim 2, the service controller being arranged to ~~make the selection~~ select which modal form or forms to use according to the content of the information, and the context of the interaction.

4. The server of claim 1, the service controller being operable to receive inputs in different ~~modes~~ modal forms simultaneously from the same user, to resolve any conflicts, and determine an intention of the user based on the inputs.

APPLICATION SERIAL NO. 09/062,969

5. The server of claim 1, the terminal interface being arranged to recognize recognize speech as an input.

6. The server of claim 1, the terminal interface being arranged to generate audio as an output mode.

7. The server of claim 1, the service controller being arranged to conduct a dialogue with the user in the form of a sequence of interactions.

8. The server of claim 1, further comprising means for initiating a connection to the user's terminal.

~~9. The server of claim 1, further comprising means for initiating a connection to the user's terminal.~~

10. The server of claim 1, further comprising a link to a telephone network, and a call processor for making and receiving telephone calls on the telephone network.

11. The server of claim 1, comprising a set of servlets arranged to communicate with each other by event driven messages.

12. A server for interfacing between telephone calls and the internet, and comprising:

a terminal interface for supporting one or more connections from the server to user terminals, the terminal interface providing a telephony interface for receiving or making a telephone call, and arranged to interact with a user on the call by ~~recognising~~ recognizing speech or generating audio signals;

an internet interface for receiving or outputting information from or to other parts of the internet; and

a service controller for controlling interaction between the terminal interface, telephony interface and the internet interface, -

APPLICATION SERIAL NO. 09/062,969

the service controller being operable to interact with a user having a terminal capable of handling telephony or internet communications, to select which modal form or forms to use for controlling input or output of the information on the terminal interface and the internet interface, according to the modal form of the input and output.

13 The server of claim 12, wherein the controller being is operable to interact with a user having a terminal capable of handling telephony or internet communications, the controller further being operable to select which of these telephony or internet communications to use when sending information to the terminal, and to convert the information to suit the selected type of communication.

14. A method of using a server to handle information in different modal forms suitable for more than one mode of user interface, and comprising the steps of:

supporting one or more connections on the internet;

supporting one or more connections from the server to the user terminals, at least one terminal being a multi-modal user terminal;

passing information in different modal forms between the user and the server;

controlling input or output of the information on the terminal and internet interfaces; and

processing the information received from or sent to either interface, according to ~~its~~ the modal form of the input and output.

15. A method of using a multi-modal service provided by a server on the internet, the server having an internet interface for supporting one or more connections on the internet, a terminal interface for supporting a connection to a user of the service, and for passing information in ~~at least one of the~~ different modal forms; and a service

APPLICATION SERIAL NO. 09/062,969

controller for controlling input or output of information on the terminal interface and the internet interface, and for processing the information received from or sent to either interface, according to ~~its~~ the modal form, the method comprising the steps of:

providing input to the terminal interface of the server;

engaging in a dialogue with the server to cause the server to process the information according to ~~its~~ the modal form of the information; and

receiving a response from the terminal interface of the server, according to the result of the information processing.

16. Software on a computer readable medium for carrying out a method of using a server to handle information in different modal forms suitable for more than one mode of user interface, the method comprising the steps of:

supporting one or more connections on the internet;

supporting one or more connections from the server to the user terminals, including multi-modal user terminals;

passing information in different modal forms between a ~~the user~~ terminal and the server;

controlling input or output of the information on the terminal and internet ~~interfaces~~ connections; and

processing the information received from or sent to either ~~interface~~ connection, according to ~~its~~ the modal form of the input and output.

CERTIFICATE OF FACSIMILE TRANSMISSION

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